

ANDERSON'S MAP
—OF—
SOUTHERN IDAHO,
EASTERN OREGON
—AND THE—
REGIONS ADJACENT.

PUBLISHED BY
WARREN HOLT, S. F.

Graff

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MAP

—OF—

SOUTHERN IDAHO

—AND—

THE ADJACENT REGIONS,

—BY—

JUDGE W. F. ANDERSON,
OF BONANZA CITY.

WITH AN

ACCOMPANIMENT,

COMPILED BY

CHAS. DRAYTON GIBBES, C. E.

OF SAN FRANCISCO.



Published by *WARREN HOLT*, 717 Montgomery St,
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PREFACE.

THE accompanying Map embraces that portion of Idaho which lies south of the parallel of 46° north. The need of a reliable Map of this interesting and rich mining region has long been felt, and Judge W. F. Anderson deserves great credit for the time and labor he has spent in collecting the necessary data.

In the absence of any minute general survey of the central portion of the Territory, this Map has been constructed from the best and most authentic materials in existence.

The chief authorities from which it has been compiled, are the personal observations and explorations by the author, and information furnished him by resident miners, prospectors, scouts, and army guides, with a compilation by C. D. Gibbes, draughtsman, from U. S. Land Surveys, from Scouts Map of Headwaters of Salmon River, Lt. Geo. S. Wilson, 12th U. S. Infantry, from Government Map of Yellowstone National Park, and other official data.

In the small space allowed for accompaniment in a work of this kind, an elaborate and full description of the country cannot be expected. All that is intended, is to give short and condensed descriptions and extracts from the latest and most reliable official and other documents, such as will furnish information of the country that will be of use to all classes of immigrants: the miner, farmer, stock raiser, capitalist, tourist, sportsman, or the many persons who have friends in the Territory; all of whom may find something here to interest them. The information herein

collected has mostly been derived from the *Yankee Fork Herald*, published at Bonanza City, from Judge W. F. Anderson, Prof. F. V. Hayden's Geological Survey of the Territories, and the *New West Illustrated*, a publication at Omaha, Nebraska.

No pains nor expense have been spared in the collection of materials for the construction of the Map to render it complete as possible; and it is confidently believed that it will meet the approbation of the public.

C. D. G.

SAN FRANCISCO.

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IDAHO TERRITORY.

Position, Area and Counties.

Idaho is situated between Latitude 42° and 49° North and Longitude 34° and 40° West from Washington. It is bounded North by British Columbia, East by Montana and Wyoming, South by Utah and Nevada, and West by Oregon and Washington. The length, North and South on the Western boundary, is 485 miles, and along the Wyoming border 140 miles. The breadth varies from less than 50 miles on the North, to nearly 300 on the South, with an area of 86,294 square miles. It is divided into thirteen counties, Ada, Alturas, Bear Lake, Boise, Cassia, Idaho, Kootnai, Lemhi, Nez Perce, Onida, Owyhee, Shoshone, and Washington: all but the three northern counties are shown on Anderson's map.

OUTLINES OF IDAHO.

The "Gem of the Mountain's," an Eldorado Indeed. Idaho is one of our largest, richest, and in many ways most attractive, but least known dependencies. Its elevation is from 2,000 feet above sea level in the lower Snake River Valley, to 10,000 feet on the top of its mountain peaks; a large part lying above the altitude of 4,000 feet. The higher portions are broken up into a succession of mountain ranges, in many places very steep and rugged. Below these are high rolling hills, upon which nutritious grasses are found, affording vast pasture lands for stock. Still lower are the table or "sage brush" lands, rich in soil, and when properly irrigated and cultivated producing large crops of cereals and vegetables, and are favorable to the growth of various fruits. The mountains are usually covered with forests of pine, fir, and other timber. Of swift, noble rivers and deep, placid lakes, Idaho has its scores. Snake River, Salmon, Boise, Clearwater, Kootnai, Bear, Raft, Payette, Weiser, and other streams are clear, strong currents worthy of their home. Of Idaho's total area of 55,228,160

acres, about 12,000,000 acres are agricultural; 25,000,000 acres pasture lands; 10,000,000 acres timber lands; and the remainder, 8,228,160 acres, consisting of mineral lands, inaccessible mountain peaks and lava beds. The capacity of soil and climate for a wide range of productions may best be judged from the fact that not only do all the cereals and vegetables which can be raised north of the cotton growing line in the Atlantic States flourish in the greatest perfection here, but Idaho apples, pears, plums, peaches, grapes, nectarines, apricots, and many of the smaller fruits, are pronounced very superior in size. At Lewiston, peaches are found blooming in the middle of February. Fruit trees and vines grow very rapidly. The long dry summers, abundance of sunlight, a warm sandy soil with perfect under-drainage and the plentiful water supply afford all the conditions necessary for the rapid growth and ornamentation of orchards and vineyards. Mercury rarely falls to 10° below zero in any of the valleys, and that only during the coldest nights of winter. Idaho enjoys the same, bright winter and summer skies, the equable temperature and cool summer nights often described as common to the Rocky Mountains, with, in addition, a tinge of the semi-tropical blasts from the Pacific. Cattle, sheep and horses require but little prepared feed, and rarely sheltered, on the great stock ranges. Wheat yields an average of 35 bushels to the acre, and we are told of large fields in western Idaho which average 65 bushels, per acre; oats average 55 bushels, an exception being noted recently in which a north Idaho farmer raised 1,164 bushels on ten acres or, 116¼ bushels per acre. Farms are to be had in almost any of the desirable valleys under the home-stead and pre-emption laws. The principal are those of the Snake, Salmon, Weiser, Boise, Clearwater, Raft, Owyhee Payette, and Malade rivers. Idaho is a good country to emigrate to for those who desire to procure homes on public domain Dairying, stock raising, farming, are all open avenues to competency for those of small capital and a willingness to work. Flour-mills are established at various points sufficient to manufacture flour for local demands, and also saw-mills to cut the lumber required for

home use by the settler. About 25,000 beaves fattened on Idaho bunch-grass, were marketed during the year 1879.

The interior of Idaho from the Saw Tooth mountains east to Onida county, and north of the Snake River Lava Fields to 45° designated on all former publications as an "unexplored region," containing 20,000 square miles or more, is now portrayed for the first time, by Mr. Anderson.

IDAHO COUNTIES.

Their Extent, and Topographical Features. The Agricultural, Pastoral, Mineral and other resources of Each.

ADA.

Ada county is celebrated for its beautiful valleys and salubrious climate. It has an area of 2,000 square mills. Boise City, the seat of the Territorial and county governments is situated on the north bank of Boise River, a location of great beauty, overlooking the magnificent valley of the Boise, stretching away to the westward for a distance of fifty miles, the Owyhee Range of Mountains in plain view, forty miles distant on the south, and the Boise Mountains, three or four miles distant on the north, form a very appropriate background to the picture, and contain many good locations for stock-raising, dairying, farming, and vineculture. most of which are unoccupied.

On the foot of the mountains are immense quarries of sandstone of the finest quality for building purposes, of which are built the U. S. Assay office, the Territorial Penitentiary, the principal buildings of the U. S. Garrison, and many substantial business houses. The altitude is 2,880 feet above the sea. It is on the line of the projected extension of the Utah Northern Railway, being surveyed from Portneuf Station to the Columbia River. It contains 2,500 inhabitants, three newspapers, the *Statesman*, *Democrat*, and *Republican*—one public and three private schools, five churches, a U. S. Assay Office, U. S. Land Office, and Masonic, Odd Fellows and Good Templars lodges.

Boise is at present the commercial center of Idaho, and enjoys a very heavy trade from a region as large as half of New England. Parties from all parts of the mountains, valleys and mining camps come here to trade, many of the miners, prospectors, hunters and trappers spend their winters here. About 6,000,000 pounds of freight are brought to Boise annually. Daily stages run to Kelton, on the Central Pacific Railroad, 250 miles and to other points, north, east and west.

Boise Valley is nearly 60 miles long by three wide, Most of the Public Land has been taken up, that lies bordering on the river, on the first bottom; but there are on the south side of the river, several hundred thousand acres remaining to be claimed under the provision of the Desert Land Act. This land is fertile, lacking nothing but water to render it very productive, and is especially adapted to fruit culture. The agricultural productions of Ada county embrace everything that can be raised in the Atlantic States north of the cotton growing line. One of the largest farms produced nearly 20,000 bushels of grain last year. Another produced 16,000 bushels on 600 acres of land. There is one orchard in Boise Valley containing 13,000 fruit trees—all of the varieties named being represented—and acres of small fruits and vines.

ALTURAS.

Alturas County occupies a vast section—some 20,000 square miles—of the southern central portion of the Territory, being larger than Vermont and New Hampshire combined. Rocky Bar the county seat, is located in the western portion of the county on a tributary of the Boise River in the heart of a mining district. The western half of Alturas County is one of the most mountainous and least explored regions of all the Territories, containing a large portion of the great Salmon River Range, and the Saw Tooth and Wood River Mountains—all being unusually rug-

ged, lifting hundreds of rocky peaks into the region of eternal ice and snow. This section is very heavily timbered with pine and other conifers. In marked contrast is the wide belt of comparatively level lava formation along its southern and eastern boundary. Such strong mountain springs as Salmon River, Wood River, Middle and South Boise Rivers have their sources in these mountains. The Rivers named water unoccupied valleys of great fertility, some of which are extensive enough to sustain from 100 to 500 families of farmers each, and Big Camas Prairie, Little Camas Prairie, Round Valley and Lost River Valley are also said to be very inviting fields for the hundreds of farmers, stockmen and dairymen yet to come.

Big Camas Prairie alone contains 100,000 acres of splendid wheat lands. The principal industries of this country at present are mining, and stock-raising. There are several localities where placer mines have been worked to a profit for a number of years past. Some of the most beautiful lakes in Idaho are in this county.

The ledges of gold and silver quartz are vast in extent and of wonderful richness, and a belt of argentiferous galena of uncommon richness, extends from northeast to southwest, across the entire county.

BEAR LAKE.

Is the smallest, as well as one of the most thickly populated counties in the Territory, and takes its name from the beautiful lake whose northern half rests within its borders. The natural wealth of this little domain is about as happily diversified as its residents could wish. There are mountains full of mineral wealth for the miner, heavy forests for the lumberman, fertile valleys and rich natural pastures for the husbandman, and a world of attraction for the tourist. Paris, the county seat, is situated on the west side of the lake and has about 800 inhabitants.

St. Charles Mining District contains copper ore, assaying 60 to 80 per cent, and "native" copper of great purity. The copper deposit can be traced thirty-five miles. Galena is also abundant and some assays have shown 78 per cent. of lead and a small per cent. in silver. Coal is found in large quantities along Bear Lake and of a fine quality for cooking and for furnace use. Coal mines are open at Smith's Fork, and on Twin Creeks, and the famous Mammoth Mine shows a vein 70 feet thick of clear coal, and with adjacent veins, separated by thin veins of clay, will aggregate 200 feet in thickness. These valuable deposits remain undeveloped, awaiting the means of railroad transportation.

BOISE.

Boise county contains some 3,000 square miles of pretty rough mountain country, and is one of the most populous of the Idaho counties. The county seat is Idaho City, a place of considerable importance, situated on Moore's creek in the southern part of the county, containing about 600 inhabitants, many good business houses, and presenting the usual bustle of a mining town. The principal business is mining. Gold was discovered in this county in 1862. Millions have been taken out since, and from present indications, the output will continue many years. Quartz mining, says the *Idahoan*, "is beginning to be a leading interest, and will continue to grow in importance as the placer mines fail." This county like Alturas, contains large forests of timber, and some beautiful lakes. The full grown timber of these mountains will average about one hundred and fifty feet in height, and four or five feet in diameter at the base. Most of the lumber used in Boise City is obtained in this county, and much of the fire wood is floated down Boise River. Coal in abundance has been found in this county, about twenty-five miles north from Boise City. The arable valleys are those of the Payette River, Grimes and Thorn valleys. None contain a very large area of agricultural

lands, but nearly all yet offer a few valuable nooks for the farmer, stock-man or dairy-man.

CASSIA.

A new county cut off the eastern part of Owyhee has an area of about 4,500 square miles. Albion, the county seat, is situated on Cañon Creek in the eastern part of the county. The Boise and Kelton stages pass through it daily. The principal streams that flow through the county from the south, into the Snake River on the north boundary, are the Salmon Falls River, Goose Creek, and Raft River, affording rich pasture lands for stock raising. Raft River Valley, Marsh Basin and the plains south of Snake River extending west to Goose Creek have been townshipped and subdivided, and if irrigated, would in many places produce good crops. Some of the best placer diggings on Snake River are found in this county.

IDAHO.

This county has an area of about 9,000 square miles. Mt. Idaho, the county seat, is located in the northren part, on a tributary of the South Fork of Clearwater River. The greater portion of this county is a rugged, mountainous, well timbered region. The Salmon River mountains covering most of the interior, on both sides of the Salmon River, which traverses it through the center from east to west; the other principal streams are the Middle Fork, the South Fork, Warren's Creek, and Little Salmon, tributaries of Salmon River, from the south. Red River and North and South Forks of Clearwater flowing north. Mining and stock raising are the principal industries of the county, although in some localities, tracts of good agricultural land are found. The table lands south of the Salmon at its confluence with the Snake, afford splendid pastures for thousands of cattle and other stock.

KOOTNAI, NEZ PERCE, SHOSHONE.

These counties are not shown on Anderson's Map. They occupy the long wedge-shaped section of north Idaho, lying between Montana on the east and Washington on the west. Lewiston is the principal town in North Idaho, containing about 900 inhabitants. It is situated on Snake River at the confluence of the Clearwater, and at present is the head of steamboat navigation.

The Columbia, Snake, Clearwater, Pend d' Oreille, Kootnai, Cœur d' Alean, St. Joseph, Spokane, and Palouse are the principal rivers of this northern region, and all traverse valleys of large extent and great fertility. Lakes Cœur d' Alean and Pend d, Oreille, each as large as Lake Champlain, with numerous smaller bodies of water, afford some of the most beautiful aquatic scenes in nature. These counties embrace a large area of fine agricultural, grazing and timber lands, offering homes to thousands of families.

LEMHI.

Lemhi county lies on the northeast border of the Territory, south of and immediately contiguous to the summit of the Rocky Mountain Range. Salmon City, the county seat, containing 500 inhabitants, is situated at the confluence of the Lemhi River with the Salmon. It embraces some of the head waters of Salmon River, and presents, perhaps, a more rugged topographical appearance than any other county in the Territory, notwithstanding there are many beautiful valleys and a large area of grazing lands, within its surface of 5,000 square miles. It is a fine stock and grain-raising country, but sparsely settled. It possesses, in a large degree, that diversity of scenery which is so attractive to the tourist. Bonanza, Challis, Custer, and Leesburg are the principal camps of rich mining districts. They are connected with the Utah & Northern Railway by a good stage road. Though in relation to the great arteries of commerce—railroad and river navi-

gation—it is quite isolated, nature has made ample amends by filling Lemhi's rugged mountains with seams of the richest of gold and silver bearing quartz. The country has been but little prospected as yet, but the past season has opened up some of the richest ledges yet discovered on the Pacific coast. In the district which extends through this county, north and south, known as the "Yankee Fork," ore has been taken out in large quantities that would bear transportation to Salt Lake at the rate of \$160 per ton, and then leave a large net profit to the miner. Parties claim that they have pounded out \$1,000 per day in a hand mortar, from selected rock. The ledges are, many of them, high up the mountain sides, rendering it an easy matter to work them cheaply, and drain and ventilate with little expense. Very rich diggings have been discovered lately on Anderson Creek, a tributary of Dahlonga Creek, in the northwestern part of the county.

ONEIDA.

This county occupies all of the extreme eastern portion of the Territory except the beautiful domain in the southeastern corner, already described as Bear Lake county. It embraces a region as large as the State of Vermont, having an area of over 10,000 square miles, and far more fertile in resources. Snake River traverses it from east to west, and washes a large portion of the northwestern boundary, Bear River flows for over fifty miles through the southeastern corner, Malade River drains the southern central portion, Blackfoot and Portneuf Rivers wind through the center from east to west, and Henry's Fork with its affluents course its northern half.

Spurs of the Wasatch Range cover about one fourth of the area at the south, and the Teton Range, a much smaller proportion at the extreme north. It has a number of beautiful lakes, Henry, Market, Gray's and Swan Lakes, are the most noted. Snake River Valley, at numerous points, widens out to a dozen miles, throughout which a rich black alluvial soil takes the place of the

lava beds. Irrigation is necessary here, and a company, organized at Eagle Rock, propose the coming season, to construct a canal, with a depth of four feet, a width at the bottom, of twenty and at the top of twenty-eight feet that will irrigate 100,000 acres. The upper valleys of Snake River are numerous and fertile, the largest of which is called the Teton Basin. Malade Valley, in the southern part of the county, is fifteen miles in length and ten miles wide, having an area of 100,000 acres of excellent farming and grazing lands. It contains about 2,000 inhabitants.

Blackfoot Valley is another agricultural basin of note, and is able to sustain four times the number of inhabitants now there. The hills flanking these valleys are usually covered with bunch grass, and afford fine winter and summer pasturage. Malade, the county seat, is in the southern part of the county on a tributary of Malade River, and contains about 1,000 inhabitants. The U. S. Land Office is at Oxford in the southern part of the county, near the Railroad. The Utah & Northern Railway traverses this county north and south, connecting at Ogden with the Central & Union Pacific Railroads.

Rich placer mines are worked on Snake River, and the Cariboo gold and silver mines, also the Oneida Salt Works are situated in the southeastern part of this county, near Salt River.

OWYHEE.

This county, situated in the southwest corner of the Territory, has an area of 6,800 square miles, being larger than Connecticut and Rhode Island together. It is noted for its rich and numerous quartz mines, which have been worked for the past ten years.

Its most accessible source of wealth, however, is in its broad expanse of rich pasture lands, embracing mountains, hills and plains where thousands of cattle roam at will and keep fat the year round, requiring no attention, but occasional herding and branding. There is comparatively little farming lands in this county; sufficient, however, to make good homes for stock raisers and to

supply the mining population. Snake, Bruneau and Owyhee are the principal rivers.

Silver City, the county seat, is situated in the northwestern part of the county, on Jordan River, and is surrounded by a rich mining country.

Good placer diggings are found in different parts of the county

The plains on Snake River would, at many points, be susceptible of a high state of cultivation, if the proper steps were taken to irrigate them.

WASHINGTON.

Washington County is located on the western border of the Territory. It has an area of about 2,500 square miles, and is drained by the Snake and Weiser Rivers, and their many tributaries. It has a large area of agricultural land settled and vacant. The leading industry, present and prospective, is stock raising, for which the country is admirably adapted. The rolling sand and limestone hills, from Snake River to the timber belt on the primitive formation, are covered with the nutritious bunch grass, and watered by numerous creeks and countless springs, capable of affording nutriment to many hundreds of thousand heads. The future cattle market exists here. All along the great cañon of the Snake River are numerous baisins, or small bottoms, where the few settlers who make homes thereon, raise every year, more fruit than they know how to dispose of. Isolated as these bottoms are, they are admirably adapted for, and will eventually be utalized as winter stock ranches, because snow seldom falls, and never stays on the ground in the cañon adjoining the river. Indian Valley, the county seat, is situated on a tributary of the Little Weiser.

The Heath District, situated in the western border of the county, contains some good silver mines, first found on a tributary to Brownlee Creek, northeast of the ferry, and about 6 miles from Snake River, and 20 miles from the settlements of the Upper

Weiser, other mines were also discovered a few miles distant. Some of the mines are galena veins with carbonates, carrying gold and silver, others quartz impregnated with native silver, and horn silver and silver glance, two assays of the last gave \$796 and \$1,303 per ton. In other localities are rich copper mines, and large deposits of iron ore, also in the eastern part, a ledge of a fine quality of mica. Good timber is also found in most parts of the county.

TOWNS AND CAMPS OF THE NEW MINING REGION.

BONANZA CITY.

This new mining center is most beautifully situated on the west bank of Yankee Fork, nine miles from its junction with the main Salmon River. It is in latitude $44^{\circ} 35'$: longitude $114^{\circ} 30'$, and 6,400 feet above sea level. Bonanza is in the heart of what is known as the Yankee Fork country, and is surrounded for many miles with rich mines of both gold and silver. No finer location for a large and flourishing mining city is found anywhere in the west. The Valley in which the town is located is about five miles long, and from one fourth to one half mile in width, the town site is about one half mile in length and half that distance in width. The houses completed and those in course of erection, number about 200. Some of these are large, fine two story buildings, erected at considerable cost.

Three fourths of these buildings have been erected the past summer, and if lumber could have been had in the early part of the season, many more would have been added to the town. Four saw-mills are now in active operation, and another of large capacity is in the course of construction, the united capacity of all, being 40,000 feet of lumber per day. Yankee Fork *Herald* one of the newest and most ably edited far west papers, is published here weekly, and a bank is about to be started. Two commodious and elegantly finished hotels have lately been completed; the Dodge and Frank-

lin hotels. Being the outfitting point for the great mineral belt of which Bonanza is the center, vast quantities of goods and supplies of various kinds daily find their way from here to the different mining camps. The distance from Bonanza to Norton Hill mines is one mile; to Mount Custer mines, three miles; to Mount Estes mines, six miles; to Loon Creek mines, twenty miles; to Stanley Basin placer mines, eighteen miles; to Robinson Bar, placer mines, fourteen miles; to Bay Horse, Kinnikinick, Ramshorn and Poverty Flat mines, twenty-eight to thirty-five miles; to East Fork mines, forty-five miles; to Upper Wood River mines, sixty miles; to Lower Wood River eighty-five miles; Saw Tooth mines, sixty miles; Prairie Basin mines, fifty miles. Bonanza is west of Challis thirty-five miles, and northwest of Blackfoot, on the Utah and Northern Railway, 160 miles. It rejoices in the possession of a finely equipped tri-weekly stage line to Blackfoot.

CUSTER CITY.

This sprightly little mining town is located two miles above Bonanza, on the west bank of Yankee Fork, and at the foot of Mount Custer. It has a population of several hundred, principally miners and prospectors, who are occupied in the mines in the vicinity. Three arastras are running in the vicinity of Custer, and the mills for the reduction of Mount Custer ores will be located near the town.

CHALLIS.

The town of Challis is situated on Garden Creek, at the mouth of a cañon of the same name, at an altitude of 5,100 feet above the sea. It occupies a pleasant position on an elevation commanding a superb view of Salmon River and Round Valley. There are already indications of Challis becoming one of the leading business towns of the northwest. The mineral resources of the surrounding country (notably, Kinnikinick and the already

famous "Ramshorn Belt") are equal, if not superior, to anything on the Pacific slope. In the words of an expert of national reputation "not excepting Leadville or the Black Hills". There are several substantial hotels, five general merchandise stores and nearly all branches of business are well represented. Challis is reached from Blackfoot on the Utah & Northern Railway, by Toponce & Co's line of stages, carrying the United States mail, by way of Big Butte through the fertile valleys of Lost River, Antelope and Thousand springs.

SALMON CITY,

The county seat of Lemhi county, may be reached by a branch of Gilmer & Salisbury's stage line, running tri-weekly from Camas Station, on the Utah & Northern Railway 132 miles to the south-east, or by trail from Challis, or by an excellent wagon road from Bannock, Montana, 75 miles east. Lemhi Valley, five miles wide extends 30 miles above the town.

GALENA CITY.

At the close of last season the country of Upper Wood River having been the field of very active exploration, and great numbers of locations on the Galena veins having been made, a very eligible point for a town, commanding abundance of water for domestic and furnace purposes was selected on the north bank of the stream between Cloud Cañon and Bear Creek, the site was surveyed, and town lots located before the miners withdrew for the winter. With the opening of the present season, a large number of enterprising miners have made their way into the camp, and rapid building has been prosecuted. This place is about 70 miles by trail southerly from Bonanza City.

SAW TOOTH CITY.

The site of this promising town is in Beaver canon, a tributary of the Upper Salmon; and about 55 miles by trail from Bonanza City, in a southern direction. It is situated under the Saw Tooth range, and is surrounded by scenery of remarkable beauty and grandeur. The mines of the vicinity are in porphyritic granite.

The ledges are uniformly sulphuret ores of high grade, resembling very much those of Austin Nevada. The dimensions of the veins however are much larger than those of Austin, being from two feet to eight feet wide. The Pilgrim mine is the most widely known of any in the district.

MINES OF THE SALMON RIVER.

A Vast Domain of Marvelous, Rich Mining Country—A Network of Gold and Silver Quartz Veins.

CUSTER MOUNTAIN MINES.

THE "GEN. CUSTER."

Rarely in the history of mines and mining has there been known an ore bed of greater magnitude, carrying so high a grade of ore as this mine. Mount Custer, on which the Custer is located, is over two miles up the Yankee Fork from Bonanza, and directly opposite Custer City. The height of Mount Custer from the banks of the Yankee Fork is 2,300 feet. The mine is located about three fourths of the way up the mountain, and is so prominent that it can be easily seen at a distance of several miles. The ore bed of the Custer mine is about 600 feet where it is so prominent, and appears to run nearly east and west. From the high

point of the apex of the vein or ledge down to where it has been prospected by cuts and tunnels, the distance approximates 600 feet. The width of the vein is variously estimated at from 30 to 50 feet. The hanging wall having been torn away by some convulsion of nature, gives to the exposed ledge the appearance of a mountain of Quartz, containing sulphurate of Silver carrying a high percentage of Gold, much in the proportion of the ores of the Comstock. There are vast quantities of this ore in and above the working tunnels, and it is estimated by competent experts that there are \$3,000,000 in sight. Besides this representative ledge there are a great number of other rich and valuable locations on Custer Mountain, a description of which it is impracticable to give in this brief article, but it remains for the "Gen-Custer" to give the mountain notoriety and a name.

NORTON HILL.

Is situated near the junction of Yankee Fork River and Jordan Creek, and about a mile and a half west of Mount Custer. Bonanza City is only a mile away to the south.

THE CHARLES DICKEN'S MINE.

Was located in June, 1875 by W. A. Norton. In one month the discoverer pounded from top rock with a hand mortar, \$11,000. The vein is from three to eleven feet in width in porphyry formation. The bullion is worth \$4 per ounce, one half of which is silver. The first season, ore was shipped to Salt Lake City, also some to Freiberg, which averaged over \$1,000 per ton. In 1878 Mr. Norton built an arastra to run by water power, and with this slow process ground out \$32,400 in six weeks,

A pan attached is for saving Silver. It is not exactly free milling ore but so near it that the tailings assay only about \$50 per ton in Silver. There is a tunnel in on the vein 500 feet.

The total value of bullion shipped to the present time is \$125,000. In 1875, \$3,400 worth of ore was shipped to San Francisco for reduction. In 1878, \$30,000 worth was shipped to Salt Lake; \$7,000 to Freiberg, Germany, and \$3,300 milled at Banner, Idaho. From the west end of the Dicken's, extending westerly across Jordan Creek, is a cluster of over lapping locations, known as the Pilot, Envy, Beecher, Centennial and Commodore, showing well defined parallel ledges of Gold and Silver bearing Quartz.

MOUNT ESTES MINES.

The Gold and Silver bearing ledges of Mount Estes have already become noted for their great mineral wealth. The Mountain is situated between the head waters of Jordan and eight mile Creeks, and about six miles north of Bonanza. The most noted mine,

THE MONTANA,

Has been visited by many experts and professional miners, and they have pronounced it one of the richest mines, so far as it is developed, of any on the Pacific Coast. The Quartz carries both Gold and Silver, and much free Gold and horn Silver is found all through the vein: The Montana was a self supporting (or poor mans mine) from its discovery. From \$500 to \$700 could be pounded out in a hand mortar in a day, and when the owners wished any money, they had only to select the rich specimens) pound them up and pan out the Gold. The vein of Quartz varies from five feet to fourteen feet in thickness, at least one third of which is shipping ore, and the remainder is very high grade. The ore shipped from the mine last fall sampled about \$1,700 per ton. The mine has been worked during the whole of last season, and a much better quality of ore produced than that of the proceeding year. During the past Winter the work of developing the ledge was prosecuted with great vigor, and at the depth of 140

feet from the croppings it has been found to be 14 feet in width of solid Quartz. Drifts on this level have been run out a distance of about 100 feet, disclosing a continuity of the vein of these dimensions. Sometimes the Gold is in the shape of threads and wires interwoven through the Quartz in such profusion as to render it almost impossible to break it. Over \$50,000 worth of shipping ore has been taken out of the shaft, which averaged \$1,500 per ton. In sinking the winze, \$1,600 was panned from the loose dirt, and from \$500 to \$1,000 per day in Gold has sometimes been pounded, in a hand mortar, out of rich specimens found in the ledge. Recently 225 pounds of Quartz crushed in a mortar produced \$1,800 in Gold. One lot of 20 tons reduced in an arastra in November last yielded an average of \$3,300 per ton. The Montana shipped about 10 tons of ore in 1878 to Salt Lake City, where it was sampled and sold, the lowest grade selling for \$850 per ton, and the highest grade \$1,275 per ton. In 1879 the company had the following amounts worked;

26,000 pounds,	(their lowest grade,)	.....	\$ 295.10	to the ton,
10,700	"	(their second grade,)	.....	797.41
20,000	"	(their select)	.....	1,481.30
11,150	"	(their select)	.....	1,732.14
10,000	"	(their highest grade,)	.....	3.300

The company claim to have 525 tons of \$300 ore on their dump. Mount Estes is 10,050 feet above the sea level, and the Montana mine is situated 500 feet below the apex, at an altitude of 9,500 feet.

MOUNT ESTES IS FULL OF MINERAL-

The Montana is not the only rich vein pent up its porphyry walls. There are at least a dozen promising mines trending through it. Among the many mines are the Hidden Treasre, (next below the Montana) the Pioneer, Snow Bird, Charles Wayne, Omaha and several other locations above it, while on the east and west sides of the Mountain are the Tonto, Yankee Fork, Gen. Miles,

Colorado, Fraction, Goldstone, Antelope, Lion, North Star, and others. As high as \$160 has been taken from one pan of dirt from the Tonto.

THE BAY HORSE DISTRICT.

The Bay Horse Mining District is deserving of special attention, as within its limits are found ores of every conceivable grade and quality. The district is located on the Salmon River, and embraces the Ramshorn, Poverty Flat and Kinnikinick sections. It is remarkably rich in smelting ores; in fact, what is considered low grade ore here would be regarded high grade in older and more accessible districts. Chief among the mines in this section is the Ramshorn, on Ramshorn Hill, about eleven miles from Challis. The mine has been worked up to the present time; it is situated about six miles from the river, on Bay Horse Creek, at an altitude of about 9,400 feet. The vein is opened by tunnels and open cuts in about twenty places. One tunnel is now 230 and another 220 feet long. In 1878, the Summer's working of the Ramshorn produced about sixty-five tons of ore, which sold for over \$37,000. In 1879, it shipped sixty-nine tons. The average assay is 490 ounces (silver) to the ton.

The following is a statement of the quartz, and value of Rams-horn ores, worked at Salt Lake City, furnished by Walker Bros., bankers, at that place :

DATE.	Lot.	Net lbs.	Assay per Ton.		Ounces silver each lot.
			per cent lead.	Ounces silver.	
July 29, 1878.....	1	4396	.....	574.99	1923.22
July 29, 1878.....	2	4398	.....	848.13	1865.04
November 11, 1878.....	3	10997	56 50	421.47	2317.45
“ 12, 1878.....	4	3936	55 75	565.10	1112.12
“ 12, 1878.....	5	12425	.....	869.16	5399.66
“ 12, 1878.....	6	12614	.....	1108.92	6993.96
“ 12, 1878.....	7	12881	.....	1104.25	7111.92
“ 23, 1878.....	8	4602	32 35	631.74	1453.63
“ 23, 1878.....	9	14040	33 50	450.29	3161.03
“ 23, 1878.....	10	14091	37 25	457.32	3222.05
September, 3, 1879.....	11	12039	.....	473.95	2852.94
“ 3, 1879.....	12	10972	.....	417.04	2288.05
“ 3, 1879.....	13	12575	10 80	526.51	3310.43
“ 3, 1879.....	14	12406	11 20	530.38	3289.95
“ 13, 1879.....	15	11534	.....	612.21	3530.61
“ 13, 1879.....	16	11892	.....	621.24	3693.89
October 11, 1879.....	17	18879	11 50	446.69	4216.53
“ 11, 1879.....	18	16548	10	443.17	3666.79
December 10, 1879.....	19	9083	17 25	396.43	1800.39
“ 10, 1879.....	20	9092	21 21	398.80	1812.94
“ 20, 1879.....	21	10252	25 50	387.03	1983.92
“ 22, 1879.....	22	4382	.....	299.79	656.84
January 3, 1880.....	23	9461	21 50	512.16	2422.77
“ 12, 1880.....	24	4653	22 50	524.26	1219.69
Totals.....	.....	248,148	.....	.....	71315.82

MANY OTHER BONANZAS.

The belt upon which these mines are situated is without doubt one of the richest in the west. On the east side of Kinnikinick Mountain there are a number of well-defined ledges, among which may be noted the Ella, Lone Star, the Maximum and Monitor, with several hundred tons on the dump, both being on the same vein, in solid lime formation ; Excelsior and Monarch showing a continuous vein for nearly 3,000 feet ; Cumberland, Mohawk, averaging from 100 to 200 ounces ; Bull Run (iron and galena)

low grade), averaging about 40 ounces, and the Faithful Boy found in slate formation and assaying from 22 to 550 ounces (silver) to the ton.

COAL FIELDS.

But it is not alone in the precious metals that this section abounds. The owners of the Ramshorn have recently discovered coal veins, a few miles from their mine. The principal vein shows a width of three feet, between slate and sandstone; and indications already appear of the existence of extensive coal fields. Croppings of coal are also found in a few other sections of the Salmon River region.

EAST FORK.

About twenty miles south of Challis, a large stream empties into the Salmon, at the new town of Crystal, called the East Fork. On the head-waters of this stream, many veins of argentiferous galena have been located, the silver yield of which are here given.

The Germania ores run as follows:

	Ozs. silver pr. ton
Sample No. 1.....	306.82
" " 2.....	141.74
" " 3.....	161.57
" " 4.....	126.57

The Arctic is an "extension of the Germania lode, and its ores assay as follows:

	Ozs. silver pr. ton.
Sample No. 1.....	730.32
" " 2.....	198.32
" " 3.....	609.57
" " 4.....	262.15

The ores of the Old Bible Back which are similar in character

to the ores of the other ledges owned by this company assay as follows :

		Ozs. Silver pr. ton.
Samples No.	1.....	266.57
" "	2.....	568.15
" "	3.....	327.81
" "	4.....	256.66
" "	5.....	320.82

Following are assays of the Warsaw ore.

		Ozs. Silver pr. ton.
Samples No.	1.....	104.15
" "	2.....	114.20
" "	3.....	198.00
" "	4.....	127.32

The Old Bible Back ledge is four feet wide, and the above are samples taken between walls. As in all the mines of the district, the ores of this mine are good smelting ores, containing lead and iron in sufficient quantities for smelting purposes.

THE WOOD RIVER REGION.

For several years past it was no secret that galena ores were abundant in the Wood River country, but discoveries and developments were limited, until last Summer and Fall. The prospects of an early railroad from some point on the Utah & Northern Railway, through to Oregon, and passing near the Wood River mineral field, stimulated prospectors to turn their attention in that direction. It is gratifying to note that their efforts are rewarded with many rich finds. So far, four or five different galena belts have been opened up, and it is the belief of all who have explored in that section that belt after belt of argentiferous galena ores exist all the way from the low hills at the base of the Wood River Range to the divide of Wood and Salmon Rivers, a distance of 45 miles. This great belt of high grade Galena and Carbonate ores extends in a southwesterly direction from Bay Horse district, near Challis,

through by the head of East Fork to Wood River and over to the south tributaries of the Boise. This makes the most extensive Silver bearing range known, being from 20 to 40 miles in width and 130 to 140 miles in length.

LOWER WOOD RIVER.

The mines in what is known as Lower Wood River district are divided into two camps, designated as Jacob's and Callahan's. These are in the outer foot-hills north from the old Emigrant road leading to Oregon and Washington Territory. Quite a number of locations have been made, and a considerable work done. Parties there have shipped several lots of ore to Salt Lake, which realized from \$150 to \$200 per ton. The veins vary in thickness from one to two and one half feet. The ores are Galena, easily melted running from 40 to 60 per cent. Lead and from \$80 to \$250 Silver. There is an abundance of iron in the vicinity. The leads are generally well defined, with bold croppings. It is a well watered and wooded section. and the hills are covered with bunch grass.

WARM SPRING CREEK MINES.

This stream is a tributary of Wood River, coming in from the west, and is properly the West Fork of Wood River. It is nearly midway between Upper and Lower Wood River mines. The mineral belt is located about ten miles from the mouth of Warm Spring Creek. The first mine is the Idaho, located in June 1879. There is an open cut 20 feet long and 15 feet deep on the ledge exposing a large body of antimonial Silver ore that assays from \$80 to \$205 per ton, Wood River is the next location adjoining the Idaho, and showing a good body of ore that assays on an average \$150 per ton; is in porphyritic granite, showing considerable Iron. The Black Horse exposes two feet of Galena ore that assays over \$300 per ton Silver and 40 per cent. Lead.

UPPER WOOD RIVER.

The mines of this district are similar in character to those of Middle and Lower Wood River. Although ledges were discovered there previous to last season, little interest was attached to the mines until July last, when the abundance of the ore and the high assays attracted the attention of miners far and near, and many parties outfitted and went in to explore for mines. In all about 75 locations have been made, many of them of great promise. In September, the prospectors held a meeting, laid off a town called Galena City, and organized a new mining district known as the Wood River District. This saved the prospectors many miles of travel to and from Rocky Bar to put their claims on record. The district extends to the Salmon and the Saw Tooth, and embraces about 600 square miles of Territory. The belt, so far as developed is a network of veins, the croppings prominent and often traceable for thousands of feet.

YELLOW JACKET DISTRICT.

Yellow Jacket District is situated 60 miles northwest of Challis, 70 miles north of Bonanza, and 60 miles west of Salmon City. The first mines discovered were placers, found on the bars of the Yellow Jacket in 1869. The North and South American lodes are the most prominent of the mines. These ledges run parallel, showing immense croppings. There are seven locations made in the districts, all gold ores, with the exception of one, which carries some silver.

The developments consist of a tunnel on the North America, 100 feet, and a shaft at another point, 50 feet deep. The ore throughout is free gold, and assays from \$16 to \$75 per ton. A three-stamp mill, packed in on mules, has been used to prospect the ores. The quartz is apparently inexhaustible.

PRAIRIE BASIN CAMP

Is about ten miles from the above mines. Some good placers have been worked for several years. There is a quartz bed in the basin which carries both gold and silver, with gold predominating. The True Blue and Bobtail are the principal mines. The veins are 6 to 8 feet in width, two feet of which will work \$120 per ton. A tunnel on each 150 feet, besides shafts, and ore is found in all of them.

To the north of Yellow Jacket, about 20 miles, is a large galena belt, the ledges in which contain 65 to 75 per cent. lead, and \$40 to \$90 per ton in silver; but being in an isolated region, the mines have not been prospected to any great extent.

SAW-TOOTH.

Not until July, 1878, did the "rock-breaker" or quartz prospector find his way here. At this time Mr. L. Smiley, a Montana pioneer, and former prominent superintendent of Utah mines, with a party of five or six hailing from Challis, penetrated the wilderness and discovered an immense outcrop of quartz. Samples of the ore were taken to Challis for assay, and the result was so flattering that Mr. S. determined to return and locate his find. In May, 1879, Messrs. Smiley, Wilson, Kinsley, Richey, O'Leary, Craig, Mather and others entered the region of Smiley, Beaver and Eureka cañons, and discovered a number of valuable ledges. Other parties soon followed, and up to the close of the season of 1879, about 120 locations of a very promising character had been made, and a town located in Beaver cañon, called Saw-tooth City. The famous Pilgrim mine is the best known of the district, having been purchased by San Francisco parties at a large price. Amongst the other prominent mines may be mentioned the Lucky Boy, the select ores of which carry about 10,000 per ton in silver. The Vienna, the Emma, the Ruby, Lion, Columbia and Custer

are also representative mines, being from 3 to 8 feet in width, in porphyritic granite, and assaying uniformly at an average of about \$300 per ton. The ores of this district carry generally a trace of gold.

SNAKE RIVER GOLD FIELDS.

Placer mines are found distributed in all sections of Idaho, and notably in the Boise Basin, Meadow Creek, near Florence, on Warren Creek, in the vicinity of Washington, on the Yankee Fork, at various places along the Salmon, on the North Fork, Anderson Creek, Prairie Basin, and many other localities. The more extensive field for this industry, however, in future will be found along the Snake River. Almost, if not entirely, to its head in Shoshone Lake, in the Yellowstone National Park, gold is found along the bars of this tortuous stream and its tributaries, as far down, it is known, as the mouth of Goose Creek, a tributary which has its rise in Northern Nevada. These placers were discovered years ago by California miners, but, with the imperfect appliances then at their command, the yield was not always sufficient to satisfy the hopes of men of that day. The gold was commonly what is known as "flour gold," and required other methods for saving it than the rude implements to be improvised in a new country. With the improved process now of employing copper plates, it is found that a very large percentage of the fine gold can be taken up, and the mines worked on an extensive scale with but little cost. This new mode is being extensively used, principally on the bars along the river between Blackfoot City and Eagle Rock, and it demonstrates the practicability of rendering profitable this industry. Doubtless during the present year, above Eagle Rock and below Blackfoot, new enterprises will be set on foot at every favorable locality, and employment be given to a vast number of men who prefer gold washing to any other description of mining.

CARIBOU GOLD MINES.

The Caribou District derives its name from a high mountain in the Snake River range, and is near the eastern border of Oneida County, nearly 100 miles northeast from Oxford Station, on the Utah and Northern Railway, with which point it is connected by a good wagon road. This District was the scene of a great mining excitement some years ago, and its placers for a time yielded a great amount of gold. While there is a good deal of placer mining still done here, it is, however, in her auriferous quartz lodes that the lasting wealth of Caribou rests.

The ledges range from 20 to 30 feet in thickness, well walled, regular and compact, while the ores—a free gold-bearing quartz, carrying from \$25 to \$60 to the ton—fill the fissures they occupy, from side to side, and from the surface down.

About 20 miles south of Caribou are

THE ONEIDA SALT WORKS.

Among the most important developments in the vast region now being opened up by the Utah and Northern Railway are those at the Salt Springs, on what is known as the old Lander Emigrant road, leading from South Pass to Oregon. The valley in which it is situated is known now as Salt Spring Valley, and is about ten miles long by one mile wide.

The demand in Idaho, Utah and Montana has so steadily increased that the product now averages about 600,000 pounds annually.

ATTRACTIONS FOR TOURISTS.

The tourist, the pleasure seeker, the scientist, the sportsman, all will find in the region represented by this map such a combination of distinctive features of wildness, grandeur and beauty that cannot be excelled on the continent, or perhaps in the world.

Its rugged mountains, fine forests, noble rivers, beautiful lakes and wonderful springs. As a resort for invalids, the patients can have their choice from the innumerable mineral springs—hot springs and sulphur springs—that are scattered about all over this region. Then there is that fine Summer resort—the grand picnic grounds for the world—

THE NATIONAL PARK.

“Enchanted land !” Its lakes and mounts and geysers, with its variety of phenomena, so vastly excelling anything of the kind elsewhere, are renowned *the world over*.

The first object of note to be seen as the traveler enters Idaho from the south on the Utah and Northern Railway, is the

RED BUTTES AND SWAN LAKE, THE AMERICAN COMO.

Near the center of Round Valley, and north of Oxford Station, stand the majestic “Red Buttes.” The railroad skirts the eastern shore between the Buttes and the lake, affording a fine view of both. An apparently floating island, covered with vegetation can be seen. The lake is a mile long and less than half a mile wide, and no soundings have yet been reached. Near by are several springs, whose mineral properties are known to be of a high order.

The next object of any interest on the railroad, situated about 35 miles north of Swan Lake is

PORT NEUF CANON,

In the great basaltic overflow in the valley of Port Neuf and Snake River. The Port Neuf River is a narrow stream, about 30 feet in width, full of little falls or rapids 3 to 6 feet high where

the water flows over the basaltic floor, adding much to the attractive beauty of the scenery, the railroad often crosses its tortuous bed, in the cañon whose walls rise perpendicularly 100 feet or more. Leaving the cañon we come out into the broad plains bordering on Snake River, and after crossing Ross Fork and Blackfoot River, the traveller reaches Blackfoot 181 miles from Ogden, and if the destination is Challis or Bonanza, can here take the stage every other day.

Before proceeding any further we will give a short description of the attractions of the

BEAR RIVER REGION.

Soda Springs, Mineral Springs, Grand Scenery, Wonderful Formations.

THE GREAT ICE CAVE—SULPHUR LAKE.

At the big bend of Bear River, in Oneida County, is located the most interesting group of Soda Springs known on the continent. They occupy an area of about six square miles, though the number is not great. At this time they may be called simply remnants of former greatness. Numerous mounds of dead or dying springs are scattered everywhere, and only a few seem to be in active operation. The mounds vary from a few feet to twenty or thirty feet high, built up, in the same way as the Hot Spring Cones, by overlapping layers. Many of the chimneys are nearly vertical, the inner surface being coated over with a sort of porcelain, some with a bright yellow coating of oxide of iron. The great Hooper Spring one mile from the main town, is not sur-

passed in the world. Eight or ten Springs all bubble up within a radius of ten or twelve feet, and all unite in one and flow off into Soda Creek in a stream six feet wide, and four feet deep. This is the most powerful spring in the world.

Its waters are very highly charged. It is surprising how much people drink. Five pints is the draught. No mineral water has such a delicious taste; none causes such an appetite. There are some mounds that have been built up in thin layers and rounded gradually to their summits, 30 to 50 feet high, and from 50 to 300 feet in diameter at the base. Some are in the form of a haystack or bee hive.

But the most interesting exhibition of the Soda Spring deposit is about four miles up Soda Creek, here is an area of half a mile square, covered over with semicircular, reservoirs, with scalloped rims, some of them 6 or 8 feet high. The partitions of these reservoirs are sometimes several feet in thickness, and are usually hollow, forming extensive caverns. The inner sides are most beautifully lined with a calcareous bead work like coral, as white as snow. There are also rows of small stalactites. In the channels along which the water flows, the vegetation grows with rankness worthy of special notice. As the water holding lime in solution, flow slowly over this vegetation, the leaves and stems become incrustated, and large masses may be gathered, showing the stems and leaves perfectly, and have been sold to travelers on the Pacific Railroad.

THE ICE CAVE.

Four miles from Soda Springs Village is the great Ice Cave, situated close to the roadside, on a level sketch of Prairie. A descent is here made down a rocky stairway about twenty feet to a level grassy rotunda some hundreds of feet in circumference, walled in by solid lava rocks. Descending still further over a rugged pathway, twenty feet more brings you to the congealed floor

of the immense Ice Cave, where ice can be found all the year round. The roof is about fifteen feet high, the side walls, are perpendicular and solid. Passing over the firm solid ice, at a distance of one hundred yards, you come to a pile of lava rock almost obstructing the passage way. But you soon reach a large open smooth tunnel. Continuing through this tunnel about 300 feet, you again descend a rocky stairway some ten or twelve feet, which brings you to what apparently was once the bed of a large river, with a perfectly solid sandy floor. The roof and side walls are here found to be covered with minute stalactites reflecting the light of the candles. Proceeding onward several hundred feet through this perfectly symmetrical tunnel you reach the end, or what now appears to be the end.

SWAN AND SULPHUR LAKES.

Four miles southeast of Soda Springs is Swan Lake, one of the loveliest natural gems in the Wasatch chain. It reclines on an oval basin, whose rim is ten feet above the surrounding country. The shores are densely covered with trees and shrubs, also a luxuriant undergrowth. The outlet is a series of small moss covered basins, systematically arranged, the clear water trickling into the nearest emerald tub, then into others, until it forms a sparkling stream and flows away to a confluence with the Bear River. The rim is apparently formed by petrification, and extends down as far as the eye can penetrate the clear crystal water. Timber and bodies of trees, coated with a calcareous substance, can be seen in the depths, but no bottom has yet been reached in the center.

Adjacent to this fit abode for water nymphs is the singular Sulphur Lake, out of whose center liquid sulphur incessantly boils, and coats the shores with thick deposits. Near by is a mountain, 85 per cent. of which is pure sulphur. The bed must be of immense area.

The elevation of Soda Springs is 5,529 feet above the level of the sea. It is a regular summering place for many of the inhabitants of Salt Lake City, and will soon become a place of resort for invalids and pleasure-seekers. The numerous springs with their curious deposits, the beautiful valley with its river, surrounded with most picturesque scenery, must very soon attract great attention from Tourists.

GOING TO SODA SPRINGS,

Is not a very difficult matter. The route is all rail via the Central Pacific Railroads to Ogden, Utah and the Utah & Northern Railway to either Oxford or Oneida Station.

From Oxford the distance is about 40 miles, and from Oneida about 35. Tri-weekly coaches on either route charge \$6 the round trip. Or parties can take the stage at Evanston, Wyoming, which runs three times a week each way, and have a very romantic 125 mile stage ride down along the banks of Bear River and Lake.

Twenty-five miles above Blackfoot, and 206 miles north of Ogden, situated on the east bank of Snake River is

EAGLE ROCK.

It derives its name from a black lava crag, an eyrie for our national bird, in mid-river ten miles above. The railroad here crosses the river and continues north beyond the summit of the Rocky Mountains into Montana.

At Eagle Rock the river has cut but a narrow gorge through the rock, forming quite a cañon, and the noblest of Idaho's rivers here dashes its awful volume through a rock-walled fissure less than 50 feet wide. The railway bridge across this chasm, 75 feet above low water, is a massive iron structure, consisting of two spans 130 and 140 feet in length, resting on the lava abutments, more solid and durable than granite, as well as on a natural pier of the same material in the river. Taylor's bridge is just below

SNAKE RIVER,

A magnificent stream, is the principal branch of the great Columbia. It takes its rise in the southern portion of the National Park,

Wyoming, and running south 75 or 80 miles to the first Grand Cañon, then turning abruptly to the west, at about 15 miles, it enters Idaho, where it runs northwesterly for 60 or 70 miles, then suddenly turning again southerly in a vast basin, covered with a basaltic floor, plunges through some wonderful fissures of the black lava rock—wonderful for the their apparently unfathomable depths as well as for their precipitous sides and singular carving. It rushes along with the power of a mighty cataract, in volume compared with the Ohio at Cincinnati. Its banks are high, in many places rocky, and always picturesque. It roars like the ocean, its waters are as blue, and it can be heard about as far.

Between Blackfoot and Milade Rivers, are three large falls on Snake River. First the American Falls, about 20 miles below old Fort Hall; then the great Shoshone Falls, between Goose and Rock Creeks, one of the grandest cataracts on the continent. The whole river makes one grand plunge of two hundred feet without an obstruction, aptly called the "Western Niagara;" then the Salmon Falls, just above the Salmon Fall River. About 250 miles below is the Great Snake River Cañon, commencing just below Brownlee's ferry, and extending down several miles, nearly to the confluence of the Salmon. The river here runs nearly north, and the volume of water is largely increased by its numerous tributaries, many of them being large rivers themselves.

THE SAW-TOOTH MOUNTAINS.

The Salmon River Country abounds in grand and picturesque scenery; but there is no portion so strangely wild and wonderfully fascinating as that known as the Saw-Tooth Range, being a marvel of diamond-pointed peaks, jutting crags, and rocky heights which even the mountain sheep will not assail. This vast range of mountains, aptly named, traverses a region nearly one hundred miles in length, beginning at what is known as "Cape Horn," forty miles west of Bonanza, and running south to the head of Salmon River,

where it turns abruptly to the southeast and continues in that direction until the sharp teeth are gradually merged in the less rugged mountains. Many of the peaks of the Saw-Tooth tower thousands of feet above the adjoining mountains, and are so steep that it is impossible for man to scale their dizzy heights.

In contrast with this range of sharp pyramidal crests, the beautiful and even valley of the Salmon, the whole a billowy, peaceful meadow, lies at its base forming a picture of grandeur and beauty seldom, if ever equalled in any of the mountains of the West. In the foot hills, adjoining the Saw-Tooth, are numerous lakes, abounding in trout, red fish, and other varieties of fish. The scenery around these lakes, in the vicinity of the Saw-Tooth is beautiful beyond the power of pen to describe. The shores are dry and covered with sand and pebbles, and the fishing and hunting is not excelled anywhere. Bear, deer and grouse, are numerous, and the climate is most delightful from the first of July until the first of October, rain scarcely ever falling during these three months. Hot sulphur springs are also found in a number of places along the river.

WYOMING.

We are indebted to Prof. F. V. Hayden's Geological Survey of the Territories for the greater portion of the information contained in these condensed extracts, from his most able report, giving a description of the most marvelous and wonderful land reserved by Congress.

THE YELLOWSTONE NATIONAL PARK.

BOUNDARIES. •

Commencing at the junction of Gardiner's River with the Yellowstone River, and running east to the meridian, passing ten miles to the eastward of the most eastern point of Yellowstone

Lake ; thence south along said meridian to the parallel of Lat, passing ten miles south of the most southern point of Yellowstone Lake ; thence west along said parallel to the meridian passing fifteen miles west of the most western point of Madison Lake ; thence north along said meridian to the latitude of the junction of the Yellowstone and Gardiner's Rivers ; thence east to the place of beginning. This includes a tract of land sixty-five miles north and south by fifty-five east and west, having an area of 3,575 square miles.

YELLOWSTONE LAKE.

This beautiful lake, which lies among the snow capped peaks of the Rocky Mountains, at an elevation of 7,427 feet, has an area of 330 square miles. The greatest depth yet found is 300 feet.

The ranges of mountains that hem the valleys in on every side, rise to the height of 10,000 and 12,000 feet, are all of volcanic origin, and are covered with snow all the year, forming one of the most remarkable water sheds on the Continent.

The melting snows give origin to three of the largest rivers in North America. Four of the most important tributaries of the Missouri, namely, the Yellowstone, Big Horn, Madison and Gallatin, have their springs here. First flowing north, then east, until they reach the Missouri ; thence on through the Mississippi Valley to the Gulf of Mexico, 3,500 miles below. The Snake River, whose sources are interlaced with those of the Madison and Yellowstone, flows south and westward, traversing nearly a thousand miles of territory before it joins the Columbia on its way to the Pacific Ocean. And the Green River rising but a few miles distant, flowing south until it joins the Great Colorado of the West, which empties into the Gulf of California, while on the east are the numerous sources of Wind River, a tributary of the Big Horn. From any point of view which we may select to survey this remarkable region, it surpasses, in many respects, any other

portion of our continent. During the months of June, July, and August, the climate is pure and most invigorating, with scarcely any rain or storms of any kind, but the thermometer frequently sinks as low as 26° . There is frost every month of the year. This whole region was, in comparatively modern geological times, the scene of the most wonderful volcanic activity of any portion of our country. The hot springs and the geysers represent the last stages—the vents or escape-pipes—of these remarkable manifestations of the internal forces. All these springs are adorned with decorations more beautiful than human art ever conceived, and which have required thousands of years for the cunning hand of nature to form.

In a few years this region will be a place of resort for all classes of people from all portions of the world. The geysers of Iceland, which have been objects of interest for the scientific men and travelers of the entire world, sink into insignificance in comparison with the hot springs of the Yellowstone and Fire Hole Basins. As a place of resort for invalids, it will not be excelled by any portion of the world.

GRANDEUR OF SCENERY, AND WONDERS OF THE PARK.

WHITE MOUNTAIN HOT SPRINGS.

Entering the Park from the north, at the junction of the Gardiner's River with the Yellowstone, as you pass up the valley of Gardiner's River; upon the west side, on the slope of the mountain, is one of the most remarkable groups of hot springs in the world. The calcareous deposits from these springs cover an area of about two miles square. The active springs extend from the margin of the river, 5,545 feet, to an elevation nearly 1,000 feet above, or 6,522 feet above the level of the sea. After ascending the side of the mountain, about a quarter of a mile, you suddenly come in full view of one of the finest displays of Nature's archi-

tectural skill the world can produce. The snowy whiteness of the deposit at once suggests the names of White Mountain Hot Springs. It has the appearance of a frozen cascade. Before you, is a hill 200 feet high, composed of the calcarcons deposit of the hot springs, with a system of step-like terrace which would defy any description by words.

The steep sides of the hill were ornamented, with a series of semicircular basins, with margins varying in height from a few inches to 6 or 8 feet, and so beautifully scalloped and adorned with a kind of bead-work that the beholder stands amazed at the marvel of nature's handwork. Add to this a snow white ground, with every variety of shade, of scarlet, green and yellow, as brilliant as the brightest of our aniline dyes. The pools are of all sizes, from a few inches to 6 or 8 feet in diameter, and from 2 inches to 2 feet deep. The largest spring 25 by 40 feet in diameter, is on the upper terrace. Bathing-pools are here found of any desirable temperature. Undemeath the sides of many of these pools are rows of stalactites of all sizes, many of them exquisitely ornamented, formed by the dripping of the water over the margins. But space will only permit of a short account of the description given by Prof. Hayden, of these marvels and wonders of nature. So leaving Gardiner's River we will ascend the broad slope of the dividing ridge between that river and the little branches that flow into the Yellowstone. The high wavy ridge, which is about, 9,000 feet above the sea, is composed of steel-gray, and brown sandstone, clays and a calcareous clay with numerous impressions of deciduous leaves; vast quantities of silicified wood of greatest perfection and beauty are scattered all over the surface. Descending the ridge to the valley of the Yellowstone, at the confluence of the East Fork, and proceeding up the Yellowstone about four miles, Tower Creek is seen entering the Yellowstone on the west.

About 200 yards above its entrance into the river, the stream pours over an abrupt descent of 150 feet, forming one of the most

beautiful and picturesque falls to be found in any country. The Tower Falls are about 260 feet above the level of the Yellowstone at the junction, and they are surrounded with pinnacle-like columns, composed of the volcanic breccia, rising fifty feet above the falls and extending down to the foot, standing like gloomy sentinels, or like the the gigantic pillars at the entrance of some grand temple. On the same side, a short distance above Tower Creek, is Hot Spring Creek, just at the lower end of the

GRAND CANON.

A Region of Wonderful Ravines and Canons.

In the process of wearing out the ravines and cañons on either side, hundreds of curious pinnacles and columns, resembling groups of Gothic spires, were carved out of the solid beds of basalt and breccia. On the east side of the Yellowstone, the sides of the mountain rise, step-like, and at different elevations, the basalt has poured out and overflowed like the deposits hot springs, except the deposit is a dingy black color. The cañon extends up the river some twelve or fifteen miles. At the upper end, are two falls, not more than a quarter of a mile apart, the first rushes over a precipice 140 feet, and then within a quarter of a mile, again leaps down a distance of 350 feet.

But no language can do justice to the wonderful grandeur and beauty of the cañon below the Lower Falls. Standing near its margin and looking down the cañon, which looks like an immense chasm or cleft in the basalt, with its sides 1200 to 1500 feet high, and decorated with the most brilliant colors that the human eye ever saw, yellow, red, brown, white, all intermixed and shading into each other; the Gothic columes of every form standing out from the sides of the walls with greater variety and more striking colors than ever adorned a work of human art. Local deposits of silica, as white as snow, sometimes 400 or 500 feet in thickness, are seen on both sides of the Yellowstone. These, also are worn into

columns, which stand out boldly from the nearly vertical sides in a multiplicity of picturesque forms.

The Upper Falls are 16 miles below the outlet of the river at the lake. The Yellowstone Basin proper in which the greater portion of the interesting scenery and wonders are located, extend a distance of 40 miles south from the lower end of the grand cañon which is about the north rim of the basin. The entire basin is covered more or less with dead or dying springs, with some groups of active springs; but a few of the most remarkable can be mentioned in this short article.

SPRINGS AND GEYSERS.

Ten miles above the falls, on the east side of the river, is an interesting group of hot springs, named the "Seven Hills."

Approaching from the west, the first spring to attract attention, is located at the base of one of the white hills. It is a powerful steam vent, with the strong, impulsive noise like a high pressure engine, and is named Locomotive Jet. At this locality are some very remarkable turbid and mud springs. One of the largest turbid springs has a basin 40 feet in diameter, with the margin 20 feet above the water.

The sulphur and mud group, two miles above, contain a number of interesting springs. The first one is called the Mud Cauldron. The mud is so fine, white and pure in many of these springs, that when dried in cakes, they resemble the finest meerschaum.

The next interesting spring is the Grotto. A vast column of steam issues from a cavern in the side of the hill, with an opening about 5 feet in diameter. The roaring of the waters in the cavern, and the noise of the waves as they surge up to the mouth of the opening, are like that of the billows lashing the sea shore.

Located higher up on the hill side, not far from the grotto, is the Giant's Cauldron, the most remarkable mud spring in the West. It is 40 feet in diameter at the top, tapering down to half the size, and is about 30 feet deep, and with a constant roar

which shakes the ground for a considerable distance, and may be heard for half a mile. From the mud on the trees for a radius of 100 feet or more in every direction from the crater, it would seem that the mud might have been thrown to the height of 75 or 100 feet, within a year or two.

At the south side is a mud geyser with a rim 30 by 50 feet—a true intermittent spring. It flows every 3 hours and 15 minutes, throwing the water to the height of 20 or 30 feet.

Eight miles above the Seven Hills is Yellowstone Lake. A beautiful sheet of water 22 miles long from north to south, and an average of 10 to 15 miles in width from east to west, but very irregular in outline. The Upper Yellowstone enters it on the south. Usually in the morning the surface of the lake is calm, but toward noon and after, the waves commence to roll, and the white caps rise high, sometimes four or five feet.

On the west side of the lake is a small stream called Bridge Creek, from a singular natural bridge of trachyte across it, with barely room for a trail about two feet wide, which is used by herds of elk that are passing daily. The descent on either side is so great that a fall from it would be fatal to man or beast.

Around the lake are some 200 or 300 interesting hot springs of all sizes, some of them are 50 feet in diameter, but no true geysers. However, passing over any description of the lake or its surroundings, we will proceed to give an account of some of the wonders of the

FIRE-HOLE RIVER, A BRANCH OF THE MADISON.

The course from the lake leads westerly, through a broken country, crossing the divide, and descending into the Valley of the East Fork of the Madison, numerous hot springs are seen as you travel down the stream to the Fire-Hole Valley.

On the Fire-Hole River are two basins containing geysers, called the Lower and Upper Basins.

LOWER GEYSER BASIN.

The Lower Geyser Basin comprises an area of 30 square

miles, and contains seven principal groups, embracing hundreds of springs and geysers. They are divisible, like those of Iceland, into three classes. 1. Those which are constantly agitated or boiling. 2. Those which are agitated only at particular periods. 3. Those which are always tranquil.

The following are some of the most noted in this basin. 1. The Cavern, a singular form of wonderful beauty, is situated near the margin of the river. The basin itself is 15 by 20 feet, and 20 feet deep. 2. The Bath Spring has an enormous square basin, 30 feet across, of unknown depth. 3. The Horn Geyser, with a horn like a geyser-cone. 4. The Couch Spring, so named from the triangular shape of its basin, 8 by 10 feet. 5. The Fountain Geyser, with a basin 150 feet in diameter within the rim, is a crater 25 feet in diameter. From this inner orifice the entire mass of water is thrown up 30 to 60 feet. The vast column of water, as it shoots up, spreads out, in falling back, like a natural fountain. 6. The Mud Puff Geyser. A short distance south of the Fountain Geyser, is one of the most remarkable mud pots in the Fire-Hole Valley. The diameter within the rim is 40 by 60 feet, and forms a vast mortar-bed of the finest material. The surface is covered with large puffs, and as each one bursts, the mud spurts upward several feet with a suppressed thud. This impalpable, silicious clay, is of every shade of color, from the purest white to a bright rich pink. 7. The Thud Geyser, so named from the dull, suppressed sound which is given off as the water rises and recedes. The orifice has a beautifully scalloped rim, with small basins around it. On the southeast side of the basin, is the fourth group, a long group of springs in a ravine, extending high up into the mountains. (8.) The Architectural Fountain, is in the lower portion of this group, one of the handsomest fountain-springs. The basin is most elegantly scalloped, nearly circular, twenty-five feet in diameter, with vertical sides to an unknown depth. The entire mass of water is projected to the height of 100 feet, and is accompanied

by immense clouds of steam. The scalloped rim of silica is of gay colors, from bright pink to delicate rose. Near this fountain is one of the elevated craters. (9.) The White Dome Geyser, The broad mound is 15 feet high, and upon this is a chimney about 20 feet in height. The steam issues steadily from the top like a high-pressure engine. (10.) Steady Geyser, an extensive fissure spring, 100 feet long, and 4 to 10 feet wide. Quite a large stream flows from this spring. (11.) The Catfish Geyser. (No description given.) About three miles up the Fire Hole, is a small but interesting group of springs on both sides of the stream. In this group is (12.) the Great Spring. This is certainly one of the grandest hot springs ever seen by human eye. There is a vast accumulation of silica, forming a hill 50 feet along the level of the river; upon the summit, is this large spring, nearly circular, 150 feet in diameter, boils up in the center, but overflows with such uniformity on all sides as to admit of the formation of no real rim, but forming a succession of little ornamental steps, from one to three inches in height, just as water would congeal from cold in flowing down a gentle declivity. But (13.) The Cauldron is the most formidable one of all. The aperture is at least 250 feet in diameter, with walls or sides 20 to 30 feet high. The water is intensely agitated all the time, boiling like a cauldron; from which vast column of steam is ever arising, filling the orifice. As the passing breeze sweeps it away for a moment, one looks down 20 feet into this terrible seething pit with terror. One side of the wall is broken down, and an immense column of water flows out of this cauldron into the river, forming a cascade.

Here again you behold the marvelous beauty of the strikingly vivid coloring, far surpassing anything of the kind in this land of wondrous beauty. This closes a very brief description of a few of the most prominent geysers in the lower basin. At the upper end of the basin are three immense boiling springs, on the east margin of the river, and on the opposite side, two or three more, and then comes a long interval of two or three miles, which is entirely free from springs, until you arrive at the upper basin.

UPPER GEYSER BASIN.

FIRE HOLE RIVER.

This basin is not as large as the lower, occupying a space of only about three square miles, and containing a less number of springs. They are, however, much more active, and their craters are more beautiful, interesting and larger. The majority of the springs and geysers are near the river, extending along it on both sides for about three miles, forming a group that contains some of the grandest geysers in the world.

Commencing at the lower end of the group, as you go up the stream, the first most noted geyser is (1.) the Soda Geyser. It is located in a small group, on the west bank of the river, and spouts with great regularity every ten minutes, throwing the water up ten feet, resembling very much a soda fountain.

Proceeding up the river, a number of geysers are seen on both sides. About seven-eighths of a mile from the Soda Geyser, on the east side, is (2.) the Fan Geyser. This consists of a group of five geysers, which play at one time, throwing the water in every direction radiating in the shape of a huge fan. Higher up, about 450 feet from the fan, on the same side, is (3.) Riverside Geyser, a spouting mound-shape geyser. At the same distance from the Riverside, but on the opposite side of the river, a little west of south, is (4.) the Grotto Geyser, these craters are all constructed by the geysers themselves, of the grayish-white silica, or geyserite, deposited by the cooling of the water; the process being very gradual and slow. The crater of this geyser is full of large sinuous orifices from which the water is projected during an eruption.

This geyser does not spout to any great height, 20 or 25 feet being the limit, but it is beautiful and interesting from the shape of its crater, which is 12 or 14 feet in height, is curved and convoluted into massive arches and exceedingly graceful forms.

Four hundred feet southeast of the Grotto stands the picturesque crater of (5.) the "Giant" or "Broken Horn," a geyser of the first class. It has a rugged crater, 10 feet in diameter on the

outside, with an irregular orifice of 5 or 6 feet in diameter. It discharges a vast body of water in a column 5 feet in diameter, and 140 feet in vertical height, continuing uninterruptedly for two or three hours.

Five hundred feet southwest of the Grotto, is (6.) the Pyramid, which is now extinct, except that from the summit steam is constantly escaping. This is quite a conspicuous cone. It has been a geyser of some importance, and has built up a structure 25 feet high, and 100 feet in diameter at the base. Near it is a quiet spring with a most elegantly scalloped rim. Southwesterly from the Pyramid, at a distance of about 800 feet, is (7.) the Punch Bowl. A spouting geyser, with a rim like a bowl. It plays frequently during the day, and some of its exhibitions being very fine. Seven hundred feet southwesterly from the Punch Bowl is (8.) the Black Sand Geyser. Thirteen hundred feet southeast from the Giant, on the opposite side of the river is (9.) the Grand Geyser. It is double, having two orifices, 15 or 20 feet apart, in one basin. The down stream one has a handsome crater, while the other has only an ornamental pool, several feet lower, and is a very modest looking spring in a state of quiescence, and no one would for a moment suspect the power that was temporarily slumbering below. It is from the pool, however, that the discharge takes place. Two eruptions were seen, with an interval of about 32 hours. A tremendous rumbling is heard, shaking the ground in every direction, and soon a column of steam bursts forth following the steam, a column of water, apparently 6 feet in diameter, rises to the height of 200 feet, while the steam ascended a thousand feet or more. This column of hot water was held up to that great height for the space of twenty minutes. The other geyser has an orifice 15 by 20 feet, and seems to be in a state of violent agitation as often as once in twenty minutes, raising up the entire mass of water 10 or 15 feet, while a steam-vent close at hand keeps up a most outrageous roar. The surroundings of the "Grand" are the most ornate of all, and exhibit greater variety and beauty than any other.

Eight hundred feet southeast of the Grand, is (10.) Saw Mill Geyser, near the east margin of the river, an interesting geyser. Its lively play and its quick energetic spouts of 25 or 30 feet in every direction, are very pleasing, and its borders abound in the pretty geyserite pebbles, some smooth, others ornamented, and others again resembling a rose-bud, with closely folded leaves. On the opposite side but higher up the river, 600 feet from Saw Mill, is (11.) the Castle, the most beautiful of them all. It is situated in the center of a large, gentle sloping mound of sinter, above which its crater rises about 20 feet. It is about 50 feet in length, and beautifully incrustated with bead-like formations. It resembles the ruins of some old castle as you approach it from the east, the entire mound is 40 feet high, and the chimney 20 feet, the lower portion rises in steps.

This has undoubtedly been one of the most active and powerful geysers in the basin; it still keeps up a great roaring inside, and every few moments throws out a column of water to the height of 10 or 15 feet, and from the commanding position of the geyser and its handsome appearance, possessing a high mound richly decorated, and several apertures through which it plays at once, the sight is very fine.

About 2000 feet east across the river is (12.) "The Giantess." It is situated on a gentle incrustated slope, and has a large oval aperture with scalloped edges, the diameters of which are 18 and 25 feet, the sides corrugated and covered with a grayish-white siliceous deposit which is sometimes distinctly visible at the depth of 100 feet below the surface, when no water is to be seen, but can be heard gurgling and boiling at a great distance below. When about to play, the water suddenly rises, boiling, foaming and surging at a terrible rate, sending out huge masses of steam, with occasional lulls it becomes stationary before reaching the surface. Again and again it renews its strength, sending out vast volumes of steam with a deafening roar that shakes the whole valley, and occasionally snatching hold of a new reservoir of water and

instantly ejecting it; each fresh access of wrath being heralded by deep, and mighty thuds, as though some vast machinery were at work beneath, when suddenly bursting from the orifice with terrific momentum, it rises in a column, the full size of this immense aperture, to the height of 60 feet; and through and out of the apex of this vast aqueous mass, five or six lesser jets or round columns of water, varying in size from 6 to 15 inches in diameter, were projected to the marvelous height of 250 feet. These lesser jets so much higher than the main column, and shooting through it, doubtless proceed from auxiliary pipes leading into the principal orifice near the bottom, where the explosive force is greater. Large stumps and stones, cast into the basin, were hurled instantly to a height of 200 feet. This grand eruption continued for twenty minutes, and was a most magnificent sight.

Two of these wonderful eruptions occurred during 22 hours, but the interval between is not stated. Seventy feet north of this is (13.) The Bath Tub, a handsome boiling spring, 5 by 10 feet in diameter, which has built itself a sarcophagus $2\frac{1}{2}$ or 3 feet in height, like a huge bath-tub, with richly ornamental borders. This operates in sympathy with the "Giantess," is excited, and boils violently with her, and is empty and desolate upon the dissipation of her power. South-westerly, 420 feet from the "Giantess," near the east bank of the river, stands (14.) The Bee Hive, a small, conical, gray mound of silica, severely simple and unpretentious in appearance, no one would suppose that it was a geyser. It is 3 feet in height and 5 feet in diameter at its base, and having an oval orifice 24 by $36\frac{1}{2}$ inches in diameter, with scalloped edges, from which steam gently escapes. Near by is a small vent, which is the herald and precursor of its greater neighbor. Before the "Bee Hive" plays, this vent commences to emit steam loudly, with occasional splashes of water. Soon the geyser begins to boil and steam, the water occasionally surging over. Suddenly comes a burst of 15 or 20 feet, and then almost instantly the slender column of water rises to a height of about 200 feet. Once by accu-

rate triangular measurement it was found to be 219 feet. The play lasts from three to eighteen minutes. The only interval noted between the playing was 20 hours. Nine hundred feet south-east from the "Bee-hive," and on the west side of the river, at the head of the valley, stands (15.) "Old Faithful." It has built up a crater about 20 feet high around its base, and all about it are decorations similar to those previously described. This is one of the most accommodating geysers in the basin—it spouts with great regularity every hour. After some preliminary spurts and splashes, the geyser emitting a deep roar which shakes the ground, shoots up a clear, straight shaft of water about six feet in diameter, which, with two or three rapid impulses, gained an altitude of 100 to 150 feet. For from 5 to 15 minutes, the superb column maintains its height, and then, with some unavailing efforts to check its fall, sinks down, and is swallowed up in the crater. Near it are four geysers' cones, which are now extinct geysers.

This closes a concise, but imperfect, description of some of the wonders to be seen in the National Park.

HOW TO REACH THE NATIONAL PARK.

There is only one available route at present, and that is from Ogden, Utah, over the Utah & Northern Railway to the southern boundary to Montana; thence by daily stage to Virginia City. From there by way of Madison Valley is the only practicable route for wagons into the Park. Visitors from Montana go in that way with wagons every season to the Lower Basin, and with a little work, teams could reach the Upper Basin, which is 110 miles from Virginia City. From Beaver Cañon on the Utah & Northern Railway, a railroad is projected to run east, and enter the Park on Thirsty Fork, and over to the Upper Geyser Basin. If this road can be completed to Yellowstone Lake, it will be the shortest railroad, yet to be built, by which it can be reached.

PROPOSED ROUTE FOR A RAILROAD TO THE NATIONAL PARK.

To commence on the Union Pacific Railroad, at Point of Rocks; thence north through the Sweet-Water Mountains, across Sweet-Water River east of South Pass City. Then crossing the numerous small tributaries forming the headwaters of the Big Horn River, and on into the Valley of Wind River, another tributary of the Big Horn, continuing north-westerly up the south bank of Wind River to its source in the Wyoming Mountains; thence turning northerly, crossing the Buffalo Fork of Snake River, and on to the Two Ocean Pass at the headwaters of Pacific and Atlantic Creeks, down the Atlantic Creek to its junction with the Upper Yellowstone; crossing the river and continuing down the east side of the river and lake, also the Lower Yellowstone to the confluence of the East Fork; thence turning west, crossing the Yellowstone just below the Grand Cañon; thence crossing Gardner's River above the White Mountain Hot Springs, and on to Cache Creek; thence north down Cach Creek into Montana. This would afford a shorter route of travel from the east.

FINE HUNTING GROUNDS.

IDAHO THE SPORTSMAN'S PARADISE.

The immense forests of pine and fir timber that exist below the line of perpetual snow; are alive with game—black and cinnamon bear, elk, black-tail and white-tail deer, mountain sheep and goat, cougar or California lion, grouse, quail and other small game. Moose are also to be found in the northern portion of the territory. Of the fur-bearing animals that may be mentioned as being numerous, are the wolf, red fox, silver-gray fox, beaver, mink, martin and muskrat. The plains are also the favorite resort of game in the winter, when the snow falls deep in the mountains, such as black-tail and white-tail deer and antelope.

All the rivers and lakes are full of mountain trout, salmon-trout, salmon, and other variety of fish, some of these attaining the prodigious weight of 40 and 50 pounds. Here, surrounded by grand mountains, are beautiful lakes, with myriads of fish disporting in their transparent depths, or waterfowl in vast numbers covering their placid surfaces—swans, geese, ducks, and other winged game.

In the Payette, Red Fish and Alturas Lakes a rare species of fresh water fish called "red fish" are found; they weigh as high as 8 and 10 pounds each. Their flesh is beautifully red, more so than the salmon; and many of them are caught annually for the markets. No streams, or other lakes here, are known to contain this variety of fish. These lakes are over-crowded with the red fish, and being a fresh water fish, and delicious eating, it would be advisable to stock lakes in other localities with this variety.

These lakes, the scenery, the bracing mountain air, the forests and the game, make this a summer paradise for those fortunate enough to be able to take advantage of its attractions. Parties from Boise City and other towns frequently resort to the lakes in summer, for recreation and amusement. The rifle, the fowling piece, and the fly, can be utilized on the same excursion.

NOTE.—From the imperfect specimen now in the California Academy of Sciences at San Francisco, of one of these red fish, it is supposed that they are a species of one of the small variety of salmon found in the Columbia river.

TABLE OF ELEVATIONS OF PRINCIPAL POINTS.

IN UTAH.	FEET.	IN IDAHO.	FEET.
Ogden.....	4,340	Bennington.....	5,798
Willard City.....	4,350	Challis.....	5,100
Logan.....	4,557	Bonanza City.....	6,400
Richmond.....	4,657	Summit (between the two last places).....	9,100
IN IDAHO.		Custer City.....	6,460
Franklin.....	4,552	Custer Mine.....	8,400
Bear River Bridge.....	4,543	Montana Mine.....	9,500
Battle Creek.....	4,495	Mount Custer.....	8,700
Clifton.....	4,893	Mount Estes.....	10,050
Oxford.....	4,862	Ramshorn Mine.....	9,400
Malade City.....	4,700	Salmon City.....	4,200
Samaria.....	4,800	Boise City.....	2,880
Soda Springs.....	5,529	Silver City.....	6,600
Oxford Peak.....	9,332	Red Fish Lake... ..	6,600
Port Neuf.....	4,522	Lake Cœur D'Alene.....	1,240
Rosses Fork.....	4,470	MONTANA.	
Fort Hall.....	4,783	Virginia City.....	5,713
Blackfoot Peak.....	7,400	Nevada City.....	5,548
Eagle Rock.....	4,720	WYOMING.	
Market Lake.....	4,800	Grand Teton.....	13,691
Camas Creek.....	4,700	Jackson Lake.....	6,800
Pleasant Valley.....	6,086	Yellowstone Lake.....	6,427
Divide on Rocky Mountain.....	6,480	Flat Mt., S. margin of lake.....	9,704
Cariboo.....	9,854	Two Ocean Pass, about.....	7,800
Fish Haven.....	5,932	Mt. Hancock.....	12,000
St. Charles.....	5,932	Mt. Stevenson.....	9,800
Blomington.....	5,985	Mt. Doane.....	10,118
Paris.....	5,836	Mt. Washburne	10,575
Ovid.....	5,760		
Montpelier.....	5,793		

EASTERN OREGON.

This section containnig a large are aof fertile lands open to pre-emption [and the center in the near future or extensive railroad developments,] has more recently attracted the larger part of the tide of emigration leading into Oregon. Eastern Oregon differs from Western Oregon in having a more dry and a cooler climate, and in partial absence of timber.

The most extensive and productive valleys in this section are the Grande Ronde, Powder, Burnt, R. Willow Creek, John Day, Malheur, Crooked and Jordan. The valleys have a rich soil of black loam producing wheat, oats, barley, corn, vegetables and fruits. The soil of the uplands is of a loamy nature, producing in its natural state, a heavy growth of wild bunch grass, of the most nutritious quality. Stock fattens on it in a few weeks.

The mineral wealth of Oregon is very great, but as yet imperfectly developed, mainly owing to the want of capital.

Two routes are now being examined for a railroad from the Central Pacific to Eastern Oregon, one from Winnemucca by Camp McDermit. The other from Battle Mt. by South Fork of Owyhee River. Either one that is selected, is to go to Bakertown, and then branch out.

MONTANA.

Next to the youngest and one of the largest Territories of the Union, lies between the 45th. and 49th. degrees of North Latitude and the 104th. and 116th. meridians of West Longitude. This magnificent empire of the northwest contains an area of 150,000 square miles, or nearly 100,000,000 acres. Of this 16,000,000 acres are fertile farm lands, a more oxtensive area than an entire average of the Eastern States. It contains 38,000,000 acres of unexcelled grazing lands. And 14,000,000 acres of forests.

Abounding in noble rivers, and possessing one of the best valley systems to be found in the entire Rocky Mountain plateau,

Montana offers many inducements to the agriculturist, stock raiser or lumberman. A vast extent of country is here open in which to select a home.

The miner, also, can be suited. Mining gold and silver is now as it ever has been, the chief industry of Montana. Placer mining has almost entirely given way to quartz mining.

The amount of gold and silver produced in '79 was about \$8,000,000. Rich ores of copper, lead and iron are found in large deposits. Also, large coal beds. These coal beds are estimated to underlie over 50,000 square miles of Montana's area. Innumerable mineral springs, hot springs and sulphur springs are scattered about and so situated that patients can have their choice.





